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10/791,441	03/01/2004	Sang Kyoon Hyun	CISCP854	3445

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EXAMINER	
HO, HUY C	

ART UNIT	PAPER NUMBER
2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/791,441	HYUN ET AL.	
	Examiner	Art Unit	
	HUY C. HO	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 December 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03/01/2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 12/04/2007 have been fully considered but they are moot and not persuasive.

The argued features, i.e., measuring delays between a root bridge and a plurality of non-root bridges and using said measured delays to coordinate transmissions in a CSMA/CA scheme, read upon **Young et al. (6,965,942)** and in view of **Moerder (6,674,730)** as follows.

Young is discussing a method and system for increasing the overall network throughput over a wireless LAN (WLAN) by having the Distributed Coordinating Function (DCF) determine the load conditions of a monitored network and adjust the values of the contention window accordingly along with using the CSMA/CA mechanism (refer to the abstract, the background of the invention in column 1 lines 10-67, column 2 lines 1-26, the summery of the invention in column 2, lines 30-67, col 3 lines 1-10). Specifically, the said load conditions of the monitored network reflect the overall network conditions include but not limited to the number of transmissions, receptions and collisions of data in the network. Inherently, the disclosure of number of transmissions and receptions implies transmission of data between devices in a network, another word, a person with ordinary skill in the art may relate to a process of data propagation, data delays or link delays in a communication network. Further, Moerder discusses a method and system for time alignment of signals from among remote units in a multiple access system, where the transmission, retransmission of signals, the time difference between outgoing and incoming signals are monitored (see the abstract). Moerder also discusses a cumulative forward and reverse link transmission delay is monitored and recorded for time alignment accordingly (see column 2 lines 15-67, column 6 lines 20-30).

Since Young and Moerder teach a multiple access communication system of measuring a network transmission link conditions, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Young teachings, and have transmission link delays, taught by Moerder, to improve the communication system discussed by Moerder. Thus, Young, in view

of Moerder, discloses delays between a root bridge and a plurality of non-root bridges and using said measured delays to coordinate transmissions in a CSMA/CA scheme.

As a result, the argued features are written such that they read upon the cited references.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. The factual inquiries set forth in Graham **v.** John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Young et al. (6,965,942)** and further in view of **Moerder (6,674,730).**

Consider claim 1, (original) Young discloses a method for operating a point-to-multipoint wireless communication network **(see the abstract)**, said method comprising:

Young discloses:

measuring delays between a root bridge and a plurality of non-root bridges **(the abstract, col 2 lines 30-48, col 5 lines 4-9, , col 10 lines 45-67, col 11 lines 1-3, disclosing network conditions, i.e., number of transmissions/receptions, collisions are monitored between stations and an access point in within a WLAN)**;

using said measured delays to coordinate transmissions in a CSMA/CA scheme **(col 1 lines 55-64, col 2 lines 30-48, col 6 lines 50-67, col 7 lines 1-5, col 10 lines 45-67, col 11 lines 1-3, describing usage of the monitored condition of network traffic load).**

Young does not specifically show link delays. Moerder discloses link delays **(see col 2 lines 60-67, col 4 lines 1-24, col 6 lines 20-30, describing forward and reverse link transmission delay among remote units and a hub station)**.

Since both Young and Moerder teach a system and method of a wireless link communication system, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Young teaching, and have link delays, taught by Moerder, to improve the method an apparatus in a wireless link communication system of plurality of remote units and a hub station, as discussed by Moerder **(see col 1 lines 15-50)**.

Consider claim 8, (original)Young discloses method for operating a node in a point-to-multipoint wireless communication network **(see the abstract)**, said method comprising:

Young discloses:

receiving a measured delay and a system slot time from another node **(see col 2 lines 35-67, col 3 lines 1-5, col 6 lines 50-67, col 7 lines 1-5, 50-55, col 8 lines 37-50, col 10 lines 45-67, col 11 lines 1-3)**;

using said measured delay and said system slot time to coordinate transmissions in a CSMA/CA scheme **(col 1 lines 55-64, col 2 lines 30-48, col 6 lines 50-67, col 7 lines 1-5, col 10 lines 45-67, col 11 lines 1-3).**

Young does not specifically show link delays. Moerder discloses link delays (**see col 2 lines 60-67, col 4 lines 1-24, col 6 lines 20-30, describing forward and reverse link transmission delay among remote units and a hub station**).

Since both Young and Moerder teach a system and method of a wireless link communication system, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Young teaching, and have link delays, taught by Moerder, to improve the method an apparatus in a wireless link communication system of plurality of remote units and a hub station, as discussed by Moerder (**see col 1 lines 15-50**).

Consider claim 9, (original) Young discloses a method for operating a point-to-multipoint wireless communication network (**see the abstract)**, said method comprising:

Young discloses:

measuring delays between an access point and a plurality of stations (**the abstract, col 2 lines 30-48, col 5 lines 4-9, col 10 lines 45-67, col 11 lines 1-3, disclosing network conditions, i.e., number of transmissions/receptions, collisions are monitored between stations and access point in within a WLAN**);

using said measured delays to coordinate transmissions in a CSMA/CA scheme (**see col 1 lines 55-64, col 2 lines 30-48, col 6 lines 50-67, col 7 lines 1-5, col 10 lines 45-67, col 11 lines 1-3).**

Young does not specifically show link delays. Moerder discloses link delays (**see col 2 lines 60-67, col 4 lines 1-24, col 6 lines 20-30, describing forward and reverse link transmission delay among remote units and a hub station**).

Since both Young and Moerder teach a system and method of a wireless link communication system, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Young teaching, and have link delays, taught by Moerder, to improve the method an apparatus in a wireless link communication system of plurality of remote units and a hub station, as discussed by Moerder (**see col 1 lines 15-50**).

Consider claim 10, (original) Young discloses Apparatus for operating node in a point-to-multipoint wireless communication network (**see the abstract)**, said apparatus comprising:

Young discloses:

MAC processor that uses said measured link delays to coordinate transmissions in a CSMA/CA scheme (**figure 2, col 1 lines 35-40, col 5 lines 35-40, 50-67**);

a delay counter that measures delays between a root bridge and plurality of non-root bridges (**figures 3 and 4, col 9 lines 20-35**).

Young does not specifically show link delays. Moerder discloses link delays (**see col 2 lines 60-67, col 4 lines 1-24, col 6 lines 20-30, describing forward and reverse link transmission delay among remote units and a hub station**).

Since both Young and Moerder teach a system and method of a wireless link communication system, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Young teaching, and have link delays, taught by Moerder, to improve the method an apparatus in a wireless link communication system of plurality of remote units and a hub station, as discussed by Moerder (**see col 1 lines 15-50**).

Consider claim 17, **(original)** Young discloses apparatus for operating a node in a point-to-multipoint wireless communication network (**see the abstract)**, said apparatus comprising:

Young discloses:

a physical layer block that receives a measured delay and a system slot time from another node (**see col 2 lines 35-67, col 3 lines 1-5, col 5 lines 20, col 6 lines 50-67, col 7 lines 1-5, 50-55, col 8 lines 37-50,**); and

a MAC layer processor that uses aid measured delay and said system slot time to coordinate transmissions in a CSMA/CA scheme (**figure 2, col 1 lines 35-40, col 5 lines 35-40, 50-67**).

Young does not specifically show link delays. Moerder discloses link delays (**see col 2 lines 60-67, col 4 lines 1-24, col 6 lines 20-30, describing forward and reverse link transmission delay among remote units and a hub station**).

Since both Young and Moerder teach a system and method of a wireless link communication system, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Young teaching, and have link delays, taught by Moerder, to improve the method an apparatus in a wireless link communication system of plurality of remote units and a hub station, as discussed by Moerder (**see col 1 lines 15-50**).

Consider claim 18, **(original)** an apparatus for operating a point-to-multipoint wireless communication network, said apparatus comprising:

Young discloses:

a delay counter that measures link delays between an access point and plurality of stations **(see figures 3 and 4, col 9 lines 20-35)**;

a MAC layer processor that uses said measured delays to coordinate transmissions in a CSMA/CA scheme (**figure 2, col 1 lines 35-40, col 5 lines 35-40, 50-67**).

Young does not specifically show link delays. Moerder discloses link delays (**see col 2 lines 60-67, col 4 lines 1-24, col 6 lines 20-30, describing forward and reverse link transmission delay among remote units and a hub station**).

Since both Young and Moerder teach a system and method of a wireless link communication system, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Young teaching, and have link delays, taught by Moerder, to improve the method an apparatus in a wireless link communication system of plurality of remote units and a hub station, as discussed by Moerder (**see col 1 lines 15-50**).

Consider claim 19, (original) Apparatus for operating a point-to-multipoint wireless communication network, said apparatus comprising:

means for measuring delays between a root bridge and a plurality of non-root bridges (**the abstract, col 2 lines 30-48, col 5 lines 4-9, disclosing network conditions, i.e., number of transmissions/receptions, collisions are monitored between stations and access point in within a WLAN);**

means for using said measured delays to coordinate transmissions in a CSMA/CA scheme (**col 1 lines 55-64, col 2 lines 30-48, col 6 lines 50-67, col 7 lines 1-5).**

Young does not specifically show link delays. Moerder discloses link delays (**see col 2 lines 60-67, col 4 lines 1-24, col 6 lines 20-30, describing forward and reverse link transmission delay among remote units and a hub station**).

Since both Young and Moerder teach a system and method of a wireless link communication system, it would have been obvious to a person of ordinary skill in the art at the time of the invention

was made to modify Young teaching, and have link delays, taught by Moerder, to improve the method an apparatus in a wireless link communication system of plurality of remote units and a hub station, as discussed by Moerder (**see col 1 lines 15-50**).

Consider claim 20, A computer-readable medium storing computer executable instructions ~~program product~~ for operating a point-to-multipoint wireless communication network, said instructions ~~computer program product~~ comprising:

Young discloses:

code that causes measurement of said link delays between a root bridge and a plurality of non-root bridges (**the abstract, col 2 lines 30-48, col 5 lines 4-9, , col 10 lines 45-67, col 11 lines 1-3, disclosing network conditions, i.e., number of transmissions/receptions, collisions are monitored between stations and an access point in within a WLAN**); and

code that causes use of said measured link delays to coordinate transmissions in a CSMA/CA scheme (**col 1 lines 55-64, col 2 lines 30-48, col 6 lines 50-67, col 7 lines 1-5, col 10 lines 45-67, col 11 lines 1-3, describing usage of the monitored condition of network traffic load**); ~~and~~

~~code that causes use of said measured link delays to coordinate transmission in a CSM.AJCA scheme.~~

Young does not specifically show link delays. Moerder discloses link delays (**see col 2 lines 60-67, col 4 lines 1-24, col 6 lines 20-30, describing forward and reverse link transmission delay among remote units and a hub station**).

Since both Young and Moerder teach a system and method of a wireless link communication system, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Young teaching, and have link delays, taught by Moerder, to improve the method an apparatus in a wireless link communication system of plurality of remote units and a hub station, as discussed by Moerder (**see col 1 lines 15-50**).

Consider claim 2, (previous present) the method of **claim 1,** Young, as modified by Moerder, further teaches calculating a common time slot value based on said measured link delays (**see col 7**

lines 22-55, col 8 lines 12-67, describing backoff time, RTS, CTS frames, and calculating of new contention window).

Consider claim 3, (original) the method of **claim 2** Young, as modified by Moerder, further teaches:

distributing said measured link delays and said common time slot within said point-to-multipoint wireless communication network (**col 2 lines 35-45, col 4 lines 60-67, col 5 lines 25-35**).

Consider claim 4, (previous present) The method of **claim 3** Young, as modified by Moerder, teaches:

aligning contention timing boundaries based on said measured link delays and said common time slot values (**col 2 lines 25-27, col 3 lines 20-37, col 4 lines 25-45**).

Consider claim 5, (original) The method of **claim 1,** Young, as modified by Moerder, further teaches wherein measuring and using are performed by said root bridge (**col 1 lines 40-45, col 5 lines 20-34**).

Consider claim 6, (original) The method of **claim** 1, Young, as modified by Moerder, further teaches wherein measuring and using are performed by one of said non-root bridges (**col 4 lines 50-60, col 7 lines 20-43).**

Consider claim 7, (original) The method of **claim 1 Young, as modified by Moerder, further teaches** wherein using comprises:

assigning transmission deferral times to said non-root bridges based on said measured link delays to give access preference to more distant ones of said non root bridges **(col 5 lines 40-50, col 6 lines 52-67).**

Consider claim 11, ((previous present**),** The apparatus of claim 10, Young, as modified by Moerder, further teaches wherein said MAC layer processor calculates a common time slot value based on said measured link delays **(col 5 lines 35-40).**

Consider claim 12, (original) The apparatus of **claim 11,** Young, as modified by Moerder, further teaches wherein said MAC layer processor distributes said measured link delays and said

common time slot value within said point-to-multipoint wireless communication network **(col 2 lines 35-45, col 4 lines 60-67, col 5 lines 25-40).**

Consider claim 13, (previous present)**,** The apparatus of **claim 12,** Young, as modified by Moerder, teaches wherein said MAC layer processor aligns contention timing boundaries based on said measured link delays and said common time slot values **(col 2 lines 25-27, col 3 lines 20-37, col 4 lines 25-4).**

Consider claim 14, (original) The apparatus of **claim 10** Young, as modified by Moerder, further teaches wherein said node is said root bridge **(col 1 lines 20-35**).

Consider claim 15, (original) The apparatus of **claim 10** Young, as modified by Moerder, further teaches wherein said node is one of said non-root bridges **(col 1 lines 20-35).**

Consider claim 16, (original) The apparatus of **claim 10**, Young, as modified by Moerder, further teaches wherein said MAC layer processor assigns transmission deferral times to said non-root bridges based on said measured link delays to give access preference to more distant ones of said non-root bridges **(col 2 lines 35-45, col 4 lines 60-67, col 5 lines 25-40, col 5 lines 40-50, col 6 lines 52-67).**

Consider claim 21 (new): The method of claim 1 Young, as modified by Moerder, further teaches wherein coordinating transmissions comprises adjusting a network allocation vector time **(see col 8 lines 25, col 9 lines 47-52**).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory

action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUY C. HO whose telephone number is (571)270-1108. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick Corsaro can be reached on 571-272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nick Corsaro/
Supervisory Patent Examiner, Art Unit 4181